

## **II. REMARKS**

### **Preliminary Remarks**

Upon entry of this amendment, claims 1-5 and 16-18 will be pending in this application, of which claim 1 is independent. Claim 1 is amended to include the process for adding the fillers as a filler suspension. Support for the claim amendments can be found in the specification as filed (see, for example, page 4, lines 12-14). Therefore, the applicants believe that no new matter has been introduced as a result of this amendment.

This response is timely filed as it is accompanied by a petition for an extension of time to file in the third month with the requisite fee. Although the statutory period for response ended on November 9, 2003 (Sunday), according to 37 C.F.R. §1.7, a response filed on the next succeeding business day is considered timely filed. The applicants respectfully reconsideration and allowance of the present application.

### **Patentability Remarks**

#### *Rejections under 35 U.S.C. §103(a) –*

Claims 1, 2, 5, and 18 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Smigerski *et al.* (U.S. Pat. No. 4,788,231) in view of Görl *et al.* (in *KGK Journal*). The applicants respectfully traverse in view of the foregoing amendments and the following remarks.

First, although Smigerski *et al.* generically discloses using fillers between 20 phr and 1000 phr, not only is the preferred range between 40 phr and 250 phr (see column 3, lines 34-37), but also none of the examples use filler concentrations as high as 400 phr.

Second, as indicated in earlier responses, the advantage of the process claimed is that the latex is uncoagulated at the time of filler addition. The one-step addition results in rubber powder particles in which filler and rubber latex are uniformly combined. Smigerski *et al.* add the fillers in a two-step process (see column 2, lines 14 to 24). After the first addition, the pH is adjusted to begin the coagulation of the latex, after which the remaining filler is added. This process results in rubber powder particles that have a filler core of rubber and filler (formed by the first coagulation step) surrounded by a shell of filler (deposited by the second filler addition step). In other words, the rubber particles of Smigerski *et al.* have a non-uniform cross-sectional structure. It is the presence of the filler shell that results in particles of rubber that are pourable and non-sticky.

Third, the examiner acknowledges that Smigerski *et al.* do not teach coupling agents and uses Görl *et al.* (KGK Journal) to provide such agents. Görl *et al.* (KGK Journal) describe powdered rubber containing modified silicic acid. Numerous problems, however, occur in the silanization that impair the value from the stand point of rubber technology. For example, the silane has the tendency to homopolymerize at low pHs. Therefore, during silanization in water the particles of silicic acid in the water strongly agglomerate and therefore are not present in the particle size suitable for silanization at a high suspension density. If such pre-modified products are incorporated, a mechanical degradation of the particles and an exposure of silicic acid particles that were not modified or modified only insufficiently occur. These disadvantages are overcome by the claimed invention. The reaction of silicic acid and silane is extremely complex and there is no reasonable expectation of success and by one of ordinary skill in the art from merely combining Smigerski *et al.* and Görl *et al.* (KGK Journal). Therefore, the applicants respectfully request withdrawal of this rejection.

Claims 1 to 3, 5, and 16-18 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Smigerski *et al.* in view of Wolff *et al.* (U.S. Pat. No. 5,159,009). Claim 4 was rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Smigerski *et al.* in view of Wolff *et al.*, and further in view of Görl *et al.* (U.S. Pat. No. 5,216,055). The applicants respectfully traverse in view of the foregoing amendments and the following remarks.

The applicants have already argued that the claimed invention is not unpatentable over Smigerski *et al.* Neither Wolff *et al.*, nor Görl *et al.* (U.S. Pat. No. 5,216,055) overcome the limitations of Smigerski *et al.* First, none of the secondary references teach or suggest a one-step filler addition process. Second, while some of the secondary references generically disclose filler concentrations greater than 400 phr (in no case do they disclose filler concentrations greater than 1000 phr), all the preferred ranges and examples use filler concentrations less than 400 phr. Third, given that the reaction of silicic acid and silane is extremely complex, there is no reasonable expectation of success that one of skill in the art would be able to produce the claimed invention by merely combining Smigerski *et al.* with either Wolff *et al.* or Görl *et al.* (U.S. Pat. No. 5,216,055). Therefore, the applicants respectfully request withdrawal of these rejections.

Claims 1, 3, 16, and 17 under 35 U.S.C. §103(a) as being allegedly unpatentable over Sommer *et al.* (U.S. Pat. No. 4,250,082) in view of Wolff *et al.* Claim 4 was rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Sommer *et al.* in view of Wolff *et al.* and in further view of Görl *et al.* (U.S. Pat. No. 5,216,055). The applicants respectfully traverse in view of the foregoing amendments and the following remarks.

First, although Sommer *et al.* generically disclose carbon black fillers from 20 phr to 400 phr and mineral substance fillers from 20 phr to 500 phr, one of ordinary skill in the art would neither use the high end of each range, nor combine the high ends of both ranges, especially when no example discloses a total filler amount greater than 120 phr. Second, Neither Wolff *et al.* nor Görl *et al.* (U.S. Pat. No. 5,216,055) overcome the limitations of Sommer *et al.* since in no case do they disclose higher filler concentrations and all the preferred ranges and examples in Wolff *et al.* and Görl *et al.* use filler concentrations less than 400 phr. Third, given that the reaction of silicic acid and silane is extremely complex, there is no reasonable expectation of success that one of skill in the art would be able to produce the claimed invention by merely combining Sommer *et al.* with either Wolff *et al.* or Görl *et al.* (U.S. Pat. No. 5,216,055). Therefore, the applicants respectfully request withdrawal of these rejections.

Inventor(s): GÖRL *et al.*  
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### **III. CONCLUSION**

The applicants respectfully submit that this application is in condition for allowance and request a timely notice to that effect. Should questions relating to patentability remain, the examiner is invited to contact the undersigned to discuss the same.

Respectfully submitted,

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